

## PATENT COOPERATION TREATY

## PCT

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P/76656.WO/B	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. PCT/IB2005/000755	International filing date (day/month/year) 23.03.2005	Priority date (day/month/year) 25.03.2004
International Patent Classification (IPC) or national classification and IPC G01R31/311		
Applicant MELEXIS NV et al.		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand  18.11.2005	Date of completion of this report  03.03.2006	
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Nadal, R  Telephone No. +49 89 2399-7920  	

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/IB2005/000755

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## Box No. I Basis of the report

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements**\* of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

### Description, Pages

1-9 as originally filed

### Claims, Numbers

1-14 as originally filed

### Drawings, Sheets

1/3-3/3 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/IB2005/000755

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-14
	No: Claims	
Inventive step (IS)	Yes: Claims	1-14
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-14
	No: Claims	

2. Citations and explanations (Rule 70.7):  
**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

1. The following documents are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: US-A-6,285,200  
D2: US-A-2003/0189440  
D3: US-A-2002/0113958

2. Regarding to novelty and inventive step, the subject-matter of claims 1-14 appears to be new in the sense of Article 33(2) PCT.

Document D1 discloses an apparatus and a method for testing integrated circuit devices in which a light source is provided to enable the testing of radiation sensing elements. D1 uses a light source mounted adjacently to the plunger and separated from the test socket. Moreover, with such a configuration the device under test requires a special packaging, with shoulder portions, to ensure a proper location of the opening of the cage containing the prism above the integrated circuit.

The system described in the present invention differs from the method and apparatus disclosed in D1 -among other things- in that it consists in a method and an apparatus for testing a packaged integrated circuit containing radiation sensing elements in which a light source is mounted in the same load board having the socket for the device under test. With such a configuration it is not necessary to implement shoulder portions in the packaging for the device under test. Moreover, the location of the light source and the device under test in the same board allows easy alignment of both elements and, therefore, it also allows the present invention to be rapidly adapted to test different devices. As a further advantage it is to be noticed that when a testing procedure is carried out and the plunger is exerting downward pressure on the DUT, if the plunger is opaque to the test radiation, the plunger prevents the effect of background radiation being incident on the device under test; therefore, the use of a chamber as in D1, is

avoided.

The technical problem to be solved by the present invention appears to be how to provide a method and an apparatus for implementing radiation testing of electronic devices ensuring rapid and easy change of the sample under test, avoiding problems related to alignment of the sample under test.

Document D2, in the same technical field, discloses a method and apparatus for testing a device including electrical and optical portions in which a head chuck assembly contains the light source and holds the device under test.

The combination of D1 and D2 to provide a circuit arrangement according to the present invention does not lead to the present invention, because none of these documents gives any hint about the location of the light source directly on the load board.

3. Regarding to industrial applicability, the subject-matter of claims 1-14 appears to meet the requirements of Article 33(4) PCT because, according to its nature, it seems that it can be made or used (in the technological sense) by the industry.
4. To be also according to the requirements of the PCT, the applicant should also take into account the following remarks:
  - a. Independent claims 1 and 13 are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
  - b. When the international application contains drawings, the technical features of the claims should be provided with reference signs placed in parentheses to increase the intelligibility of the claims (Rule 6.2(b) PCT), which is not the case of the present application. Moreover, the reference signs used in the description have to be also placed in parentheses.

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.

PCT/IB2005/000755

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- c. To meet the requirements of Rule 5.1(a)(ii) PCT, documents D1-D3 should be acknowledged in the description.